Determination of Public Land (Rangeland) Health for 64091 N JACKSON

The Record of Decision (ROD) for the New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management (dated January 2001) adopted three Standards for Public Land Health. These are (1) Upland Sites Standard, (2) Biotic Communities, Including Native, Threatened, Endangered, and Special Status Species Standard and (3) Riparian Sites Standard.

The ROD also established a process for the BLM Field Offices for the implementation. Through a public participation process, the Roswell Field Office developed and adopted indicators to use in conjunction with existing monitoring data to assess these standards.

Field assessment worksheets and other available data that evaluate the local indicators were completed for this allotment. Based on the assessments, it is my determination that the public land within the North Jackson allotment #64091 meets the Upland Sites standard and (2) Biotic Communities, including Native, Threatened, Endangered and Special Status Species standard. There are no public land Riparian areas on this allotment, therefore this standard was not addressed.

/s/ T. R. KREAGER	08/10/2004
Assistant Field Manager	Date

Standards of Public Land Health
Evaluation of 64091 N JACKSON Allotment
[04/08/2004]

The Roswell Field Office conducted rangeland health assessments at one study site within the N. Jackson Allotment #64091. The assessments looked at the Soil/Site Stability, Hydrologic Function and Biotic Integrity indicators within the vicinity of each study site. Existing monitoring data was incorporated into and in support of the field assessment. The summary of each assessment is attached and shown in the following table.

Study Area or Assessment Area	UPLAND			BIOTIC			RIPARIAN		
	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet
64091-MIDDLE-E214	X			X			N/A		

Twenty-two (22) indicators for Rangeland Health were evaluated for the public land on the North Jackson allotment #64091. Ten (10) of these assessed soil site stability, 11 hydrologic function and 13 biotic integrity. These qualitative assessments in conjunction with quantitative information gathered from long-term monitoring studies on one range trend plot location were utilized to assess the rangeland health of the public land within the allotment. These collections which were initiated in the late 1970's/early 1980's include some or all of the following: ground and vegetative cover, production, frequency and ecological condition. These collections are scheduled and conducted approximately every 5 years. This allotment is in the "C" custodial category due to the small amount of public land present.

The dry conditions occuring over the last several years have had an impact on the allotment. The Middle pasture is a loamy ecological site with Upton-Atoka soil phase on 677 acres/282 hectares. The majority of indicators assessed rated in the None to Slight to Slight to Moderate category. Those indicators rating Moderate were water flow patterns, pedestals and/or terracettes, litter movement, functional/structural groups, and litter amount. There is minor erosion occuring with instability and deposition for the water flow patterns indicator. There is slight active pedestaling occuring in flow paths with occassional terracettes present. Litter movement shows that it has concentrated in some areas around obstructions and depressions, but is not continuous. Functional/structural groups indicates an absence of grasses and shrubs as the ESD has indicated. There is a moderate reduction in the grama (Bouteloua spp.) grasses and other shrubs. Tobosa (Plueraphis mutica) and burrograss (Scleropogon brevifoilius) can still be found and these are the primary grasses historically found onsite. The percent litter falls in the bottom end of the range expected at approximately 10%, and is observed in small patches

only. There is conservative use by livestock at the moment, but is only minorly affecting the attributes associated. Because of the late winter moisture, there is an abundance of filaree (Erodium spp.) and other annual forbs. This is beneficial to pronghorn (Antilocapra americana) and other forms of wildlife.

Wildlife - Evaluation of the integrity of the biotic community considered several indicators as attribute indices for the area of interest. Biotic indicators are interrelated with several other indicators, including soil/site stability, hydrologic function, and vegetation. Several indicators are singularly biotic and address the vegetative aspect of the ecological site description, such as Functional/Structural Groups as discussed above. Specifically, two biotic indicators fell within the Moderate rating, functional structural/groups and litter amount. Considering present climate regimes, the latter indicator can be expected to fall within the normal range of variability. The reduction of grasses and shrubs identified as being a component of ESD is of concern and indicates an opportunity to improve rangeland conditions by judicious use of the resources following favorable precipitation for regeneration of those components.

In addition to the standard worksheet biotic factors, four specific wildlife indicators and descriptors are included in this evaluation. Wildlife Habitat and Population indicators rate Slight to Moderate, primarily for pronghorn and a variety of non-game terrestrial species. The composition of vegetation reflects current climatic conditions, e.g., drought for the past several years. Range site production and cover of a variety of preferred plant species for wildlife, such as forbs and woody browse species, and the availability of seed for food and regeneration, is moderated by climate and land use. Current observed wildlife populations reflect habitat condition. With respect to Special Status Species, none are known to occur in the area of interest at this time and the Habitat and Population indicators are, therefore, rated None to Slight.

Hydrology - Pasture Middle - The water flow patterns indicator rated as moderate. Erosion is occurring with some instability and deposition. The pedestals and/or terracette indicator rated as moderate. The recent dry conditions in combination with wind and water erosion has possibly decreased the amount of plant cover and possibly decreased infiltration into the soils which may have increased the amount of pedestaling of plants and rocks. The litter movement indicator rated in the moderate category. The decrease in litter movement suggests that the dry conditions have had a negative affect on the growing conditions which decreases the amount of litter that is produced and litter movement. The litter amount rated in the moderate to extreme category. The decrease in litter amount suggests that the dry conditions have had a negative affect on the growing conditions which decreases the amount of litter that is produced. All other indicators rated as none to slight or slight to moderate. Sand and gravel deposits of Quaternary pediment deposits outcrop in the area.

It is the professional opinion of the Assessment Team, that the public land within allotment #64091 North Jackson, meets the Upland and Biotic standards. There are no Riparian issues present, therefore this standard was not addressed. See site notes and recommendations for further information regarding this ecological site.

Recommendations: The recommendations for this site is that a closer look at the fences should be performed. Since this allotment has been divided into smaller tracts, there is a fence which now divides the particular pasture where the site is located. The private and public land is now separated as before it was all just one contiguous tract. For future evaluation, it should be noted that access may not always be possible as the gate off highway 13 may not be open all the time. Monitoring should continue as is with 5 year intervals between data collections.

RFOs Upland and Biotic Standard Assessment Summary Worksheet			
SITE 64088-IDSU-A171			
Legal Land Desc	NWNW 7 0150S 0270E Meridian 23	Acreage	40
Ecosite	042CY007NM LOAMY SD-3	Photo Taken	Y
Watershed	13060007080 HAGERMAN		
Observers	NAVARRO/MCGEE	Observation Date	06/24/2004
County Soil Survey	NM666 CHAVES SOUTH	Soil Var/Taxad	
Soil Map Unit	Hp	Soil Taxon Name	HOLLOMAN
Texture Class	NM666 L	Soil Phase	HOLLOMAN-GYPSUM LAND
Texture Modifier	NM666 LOAM		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	8.1	NOAA Growing Season Precipitation	5.98
NOAA Avg Annual Precipitation	12.15	NOAA Avg Growing Season Precipitation	9.95
Disturbances and Animal Use:			

Part 2. Attributes and Indicators

		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns				X	
Comments:						

S H	Pedestals and/or Terracettes			X		
Comments:						
S H	Bare Ground		X			
Comments:	Now estimated at 60-70%					
S H	Gullies					X
Comments:						
S	Wind-scoured, Blowouts, and/or Deposition Areas				X	
Comments:						
H	Litter Movement				X	
Comments:						
S H B	Soil Surface Resistance to Erosion			X		
Comments:						
S H B	Soil Surface Loss or Degradation				X	
Comments:						
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments:						
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups			X		
Comments:	We now have burrograss, tobosa, croton, and threeawn. The mesquite is encroaching slowly but steadily.					
B	Plant Mortality/Decadence				X	
Comments:						

H B	Litter Amount			X		
Comments:	20% is the current estimate.					
B	Annual Production					
Comments:	Only a fraction of the potential. Drought and brush encroachment are contributing.					
B	Invasive Plants		X			
Comments:	Mesquite is common along with creosote.					
B	Reproductive Capability of Perennial Plants				X	
Comments:	Only slightly limiting.					
S	Physical/Chemical/Biological Crusts				X	
Comments:	Mostly physical and resembling hard pan.					
B	Wildlife Habitat				X	
Comments:	A mesquite grassland habitat type above the floodplain of the Pecos River.					
B	Wildlife Populations				X	
Comments:	No specific wildlife population data at this time. Expect a shift from grassland wildlife species to shrub-grassland wildlife species.					
B	Special Status Species Habitat					X
Comments:	None known to occur.					
B	Special Status Species Populations					X
Comments:	None known to occur.					
Part 3. Summary						
A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.						
Standard Attribute		Extreme	Moderate to	Moderate	Slight to Moderat	None to

			Extreme		e	Slight
S	Soil	0	1	2	4	3
H	Hydrologic	0	1	3	4	3
B	Biotic	0	1	3	5	3

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil		1	2	7
Hydrologic		1	3	7
Biotic		1	3	8

Site Notes: The location was gps'd and photographs were taken. This upland site is just adjacent from the bottomland. There is a steady increase in mesquite as the slope upgrades from the bottom. The distinct cutoff has some remnants from possible dry land farming in the past. Farm equipment is scattered throughout the area and old roads and trails exist where activity may have been occuring. These denuded areas show no signs of revegetating.

RFOs Upland and Biotic Standard Assessment Summary Worksheet			
SITE 64088-IDSU-A172			
Legal Land Desc	SWSE 6 0150S 0270E Meridian 23	Acreage	40
Ecosite	042CY033NM SALTY BOTTOMLAND S	Photo Taken	Y
Watershed	13060007080 HAGERMAN		
Observers	NAVARRO/MCGEE	Observation Date	05/24/2004
County Soil Survey	NM666 CHAVES SOUTH	Soil Var/Taxad	
Soil Map Unit	VG	Soil Taxon Name	VINTON
Texture Class	NM666 FSL	Soil Phase	VINTON-GLENDALE
Texture Modifier	NM666 LOAMY FINE SAND		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	8.1	NOAA Growing Season Precipitation	5.98
NOAA Avg Annual Precipitation	12.15	NOAA Avg Growing Season Precipitation	9.95
Disturbances and Animal Use:			

Part 2. Attributes and Indicators

		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns				X	
Comments:	Stable and short.					

S H	Pedestals and/or Terracettes			X		
Comments:	There is sign of past active pedestaling of alkali sacaton clumps. The Russian thistle is utilizing these old dead clumps as germination and propogation islands,					
S H	Bare Ground		X			
Comments:	Exceeds the upper end of the range expected.					
S H	Gullies					X
Comments:	Too flat for gullying to occur.					
S	Wind-scoured, Blowouts, and/or Deposition Areas				X	
Comments:						
H	Litter Movement			X		
Comments:	Very little litter present and annuals are making up whatever litter there is.					
S H B	Soil Surface Resistance to Erosion				X	
Comments:	Physical crusts stabilizing.					
S H B	Soil Surface Loss or Degradation				X	
Comments:	Erosion in some places.					
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff			X		
Comments:	Russian thistle is abundant with only a few isolated pockets of alkali sacaton where the possible water table is possibly shallower.					
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups			X		
Comments:	Russian thistle and other weed species make up the bulk of the plants present. The river portion is infested with live and dead saltcedar however.					
B	Plant Mortality/Decadence					X
Comments						

:						
H B	Litter Amount		X			
Comments:	So very litter exists.					
B	Annual Production		X			
Comments:	Most of the production is annuals and some other grasses like threeawn and burrograss along with croton making up the rest.					
B	Invasive Plants			X		
Comments:	Mesquite scattered throughout along with Russian thistle.					
B	Reproductive Capability of Perennial Plants				X	
Comments:						
S	Physical/Chemical/Biological Crusts				X	
Comments:	A very hard physical crusts exists which is leading to reduced production and and increased runoff.					
B	Wildlife Habitat			X		
Comments:	Degraded floodplain area, no groundcover. Downward trend in habitat quality for numerous wildlife species that may utilize the area due to its poximity to the Pecos River. Banks of river is dominated by saltcedar.					
B	Wildlife Populations				X	
Comments:	No specific wildlife population data at this time. Expect a static trend due to the lack of vegetation recovery in the floodplain (possibly due to a drop in the water table that use to sub-irrigate the area).					
B	Special Status Species Habitat					X
Comments:	None known to occur.					
B	Special Status Species Populations					X
Comments:	None known to occur.					

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

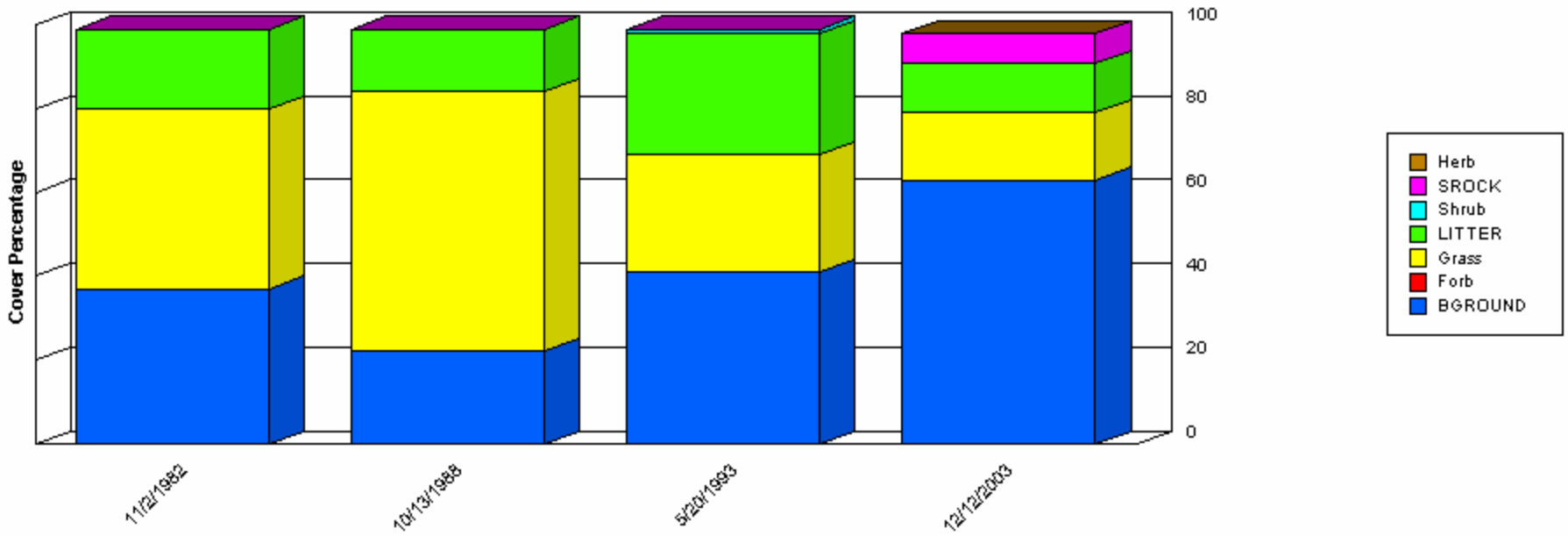
Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	1	1	5	3
H	Hydrologic	0	2	3	3	3
B	Biotic	0	2	3	4	4

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil		1	1	8
Hydrologic		2	3	6
Biotic		2	3	8

Site Notes: The location was gps'd and located for future reference. Reference photographs were also taken. The alkali sacaton is in small isolated pockets and the production is higher in these areas. Russian thistle is common throughout and the mesquite coppice dunal formation suggests that the site has lost a majority of characteristics identifying it as a salty bottomland. Periodic flood events have helped deposit sand and other materials over on top possibly changing the structure and make-up the the soil. Over time this has lead to the formation of coppice dunal areas where mesquite is elevated. Erosional events have deteriorated the site. Saltcedar is situated along the river bank and it appears that some of it has been treated.

Ground Cover Trends



	11/2/1982	10/13/1988	5/20/1993	12/12/2003
BGROUND	37.00	22.00	41.00	63.00
Forb	0.00	0.00	0.00	0.00
Grass	43.00	62.00	28.00	16.00
Herb	0.00	0.00	0.00	0.00
LITTER	19.00	15.00	29.00	12.00
Shrub	0.00	0.00	1.00	0.00
SROCK	0.00	0.00	0.00	7.00

	11/2/1982	10/13/1988	5/20/1993	12/12/2003
Total	99.00	99.00	99.00	98.00

Report Parameters

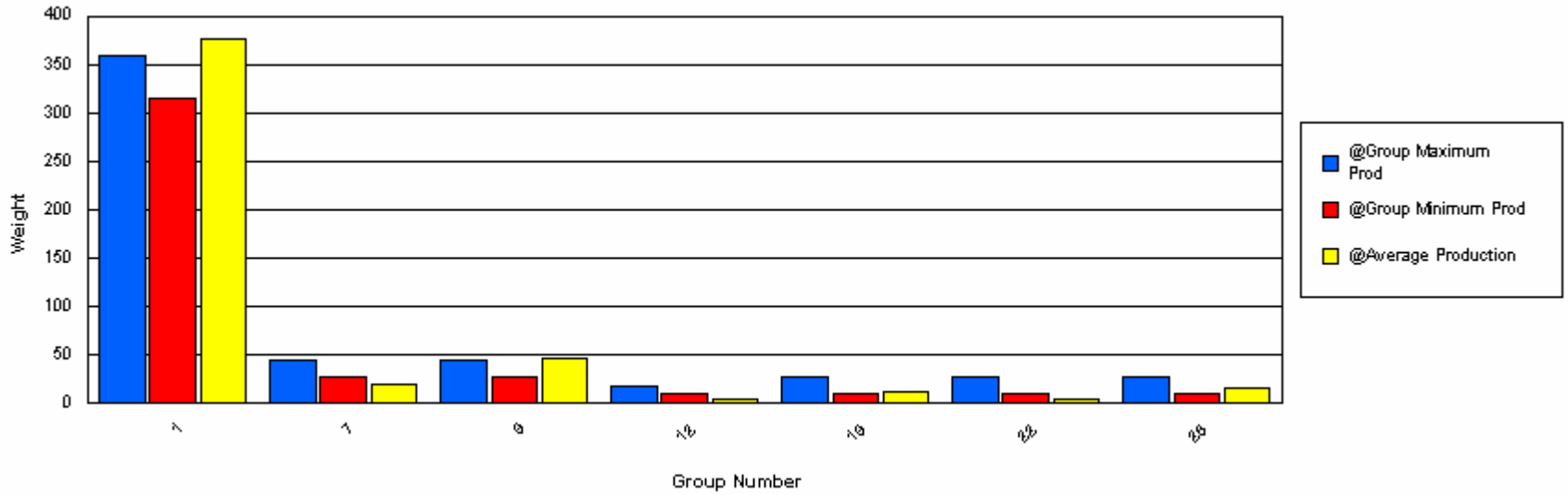
SITE NAME LIKE	64091-MIDDLE-E214
ON/AFTER	10/01/1982
ON/BEFORE	09/30/2004

Functional / Structural Groups

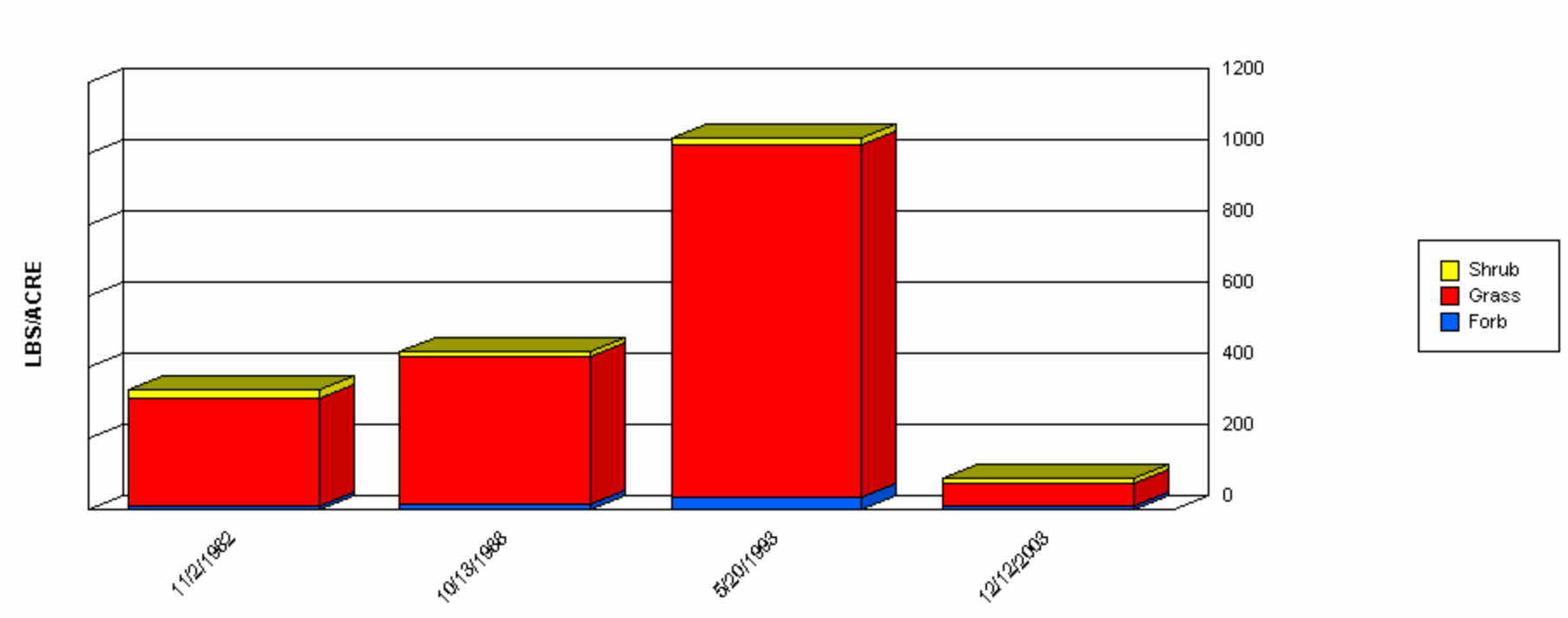
Report Parameters	
SITE NAME LIKE	64091-MIDDLE-E214
ON/AFTER	10/01/1982
ON/BEFORE	09/30/2004
MIN LBS TO GRAPH	1
SELECTED ECOSITE	042CY007NM

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
1	Grass	HIMU2	315	360	40.23	880.00	299.81	337.55
1	Grass	SCBR2	315	360	24.33	123.00	77.33	39.94
2	Grass	BOGR2	225	270	0.00	2.00	0.67	0.94
7	Grass	ARIST	27	45	0.00	39.00	18.00	16.06
7	Grass	SPCR	27	45	0.00	2.00	1.00	1.00
9	Grass	MUAR	27	45	0.00	121.00	44.75	45.72
9	Grass	MUAR2	27	45	0.00	6.00	1.75	2.49
12	Grass	PAHA	9	18	0.00	15.00	4.00	6.36
14	Grass	TRMU	9	27	0.00	1.00	0.33	0.47
17	Grass	ERPU8	9	27	0.00	2.00	0.75	0.83
18	Forb	SPHAE	9	27	0.00	1.00	0.25	0.43
19	Forb	CROTO	9	27	1.40	23.00	10.60	8.88
19	Forb	PENA	9	27	0.00	5.00	1.83	2.06
21	Forb	ERODI	9	27	0.00	1.00	0.25	0.43
22	Forb	AAFF	9	27	1.00	12.00	4.04	4.61
24	Forb	SOEL	9	27	0.00	2.00	0.67	0.94
26	Shrub	GUSA2	9	27	0.00	23.00	9.75	10.06
26	Shrub	OPUNT	9	27	0.00	14.00	4.67	6.60

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV



Production Lbs/Acre Trends



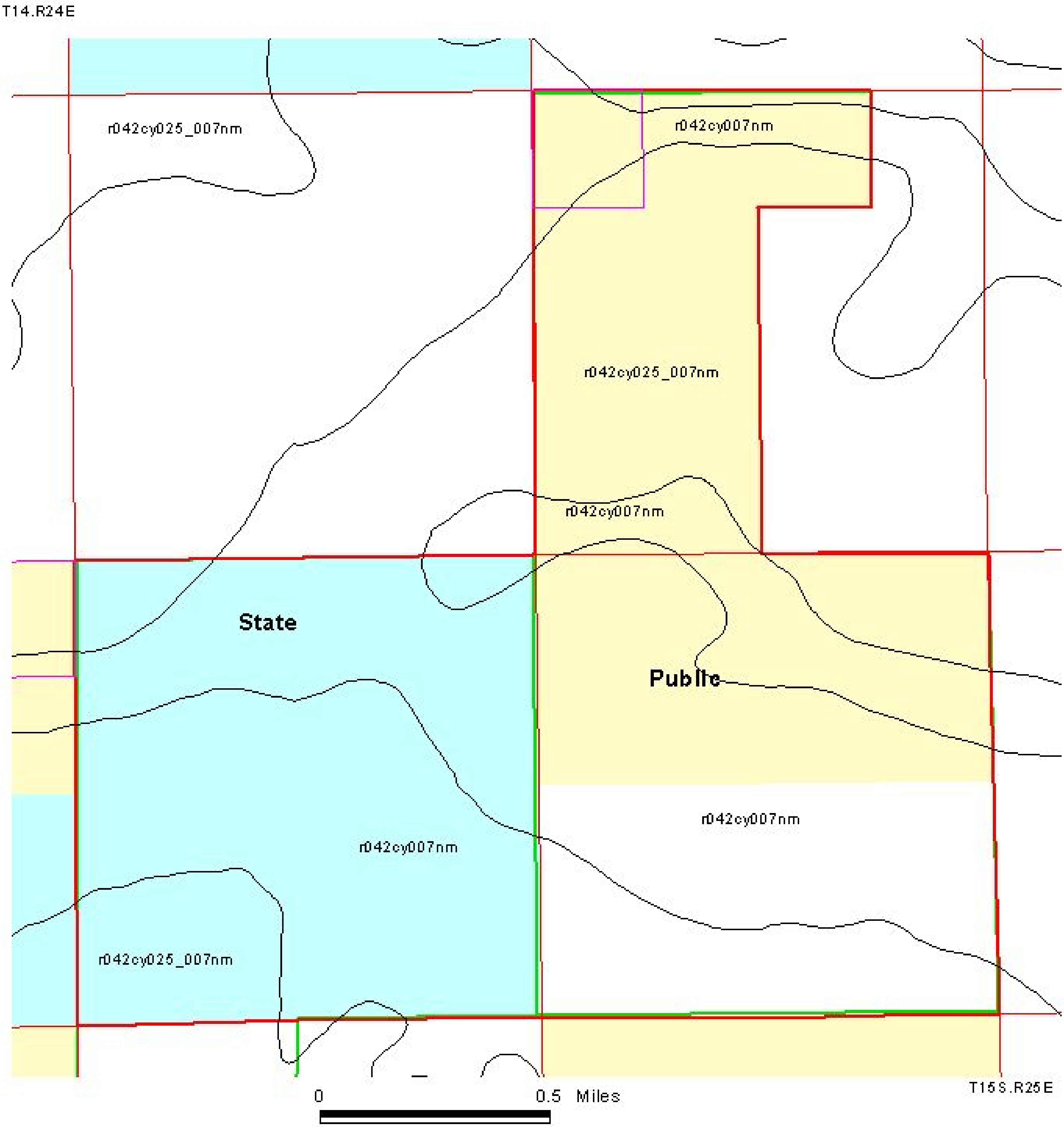
	11/2/1982	10/13/1988	5/20/1993	12/12/2003
Forb	**12.00**	**18.00**	**35.00**	**11.70**
Grass	**303.00**	**412.00**	**993.00**	**64.56**
Shrub	**23.00**	**14.00**	**16.00**	**11.33**
Total	**338.00**	**444.00**	**1,044.00**	**87.59**

Report Parameters

SITE NAME LIKE	64091-MIDDLE-E214
ON/AFTER	10/01/1982
ON/BEFORE	09/30/2004

Rangeland Health Assessment
Ecological Sites

Allotment 64091



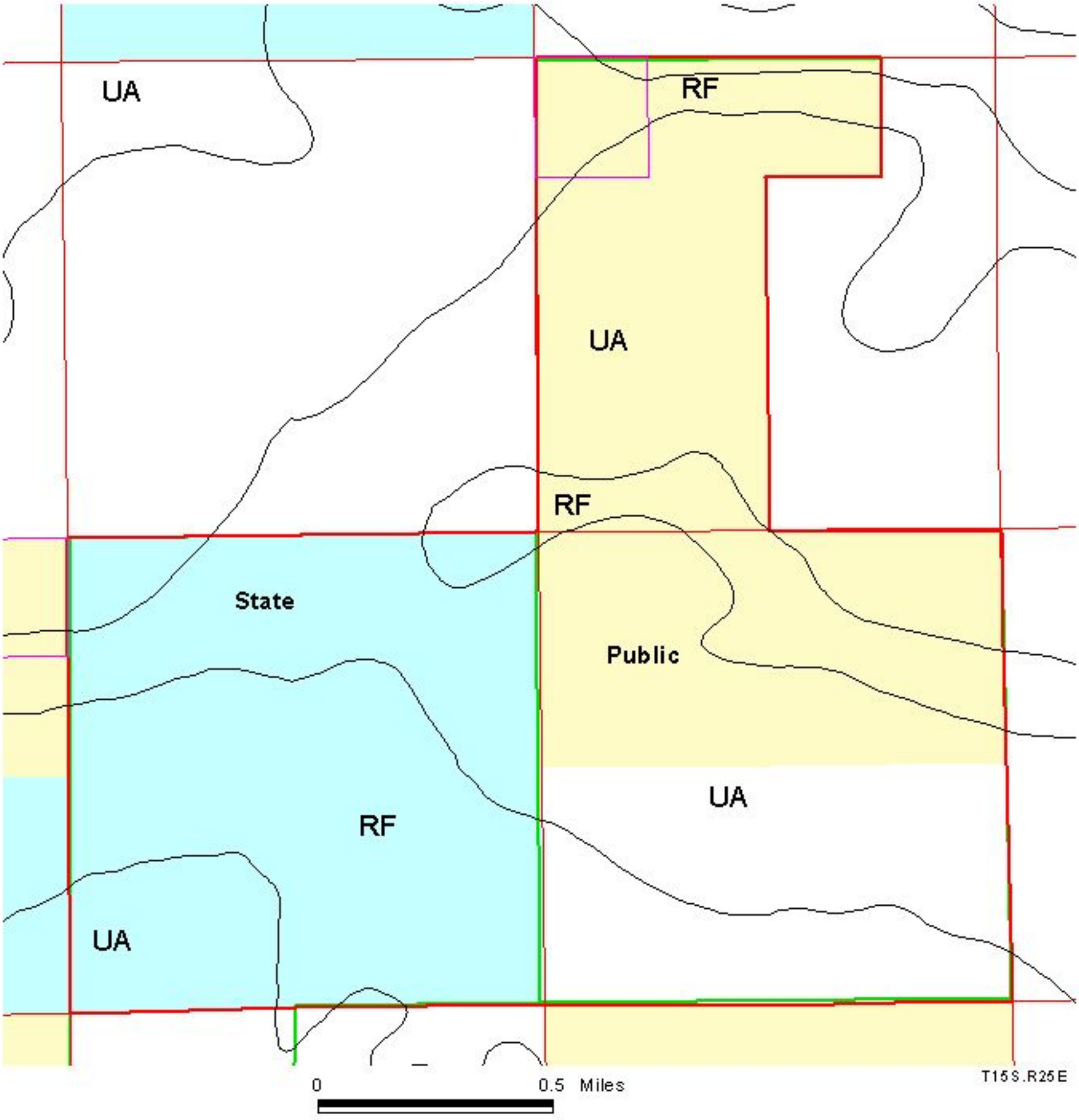
Public
Study Plots
State
Private
Study Locations
Pasture Boundary
Ecological Sites
Allotment Boundary

Produced by the Roswell Field Office GIS Intern on July 28, 2003.

Rangeland Health Assessment
Soil Mapping Units

Allotment 64091

T14.R24E



Public
Study Plots
State
Private
Study Locations
Pasture Boundary
Soil Mapping Units
Allotment Boundary

Produced by the Roswell Field Office
GIS Intern on July 28, 2003.